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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,926	02/20/2002	Yuyun Liao	10559/518001/P12422	1711

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BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
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EXAMINER

HANEY, MATTHEW J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,926

Applicant(s)

LIAO ET AL.

Examiner

Matthew Haney

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9-12, 14, 16-19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 5, 8, 13, 15, 20 and 23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 5, 8, 13, 15, 20, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the three stages as disclosed in Claims 7 and 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Jiang (US 6,078,941).

As for claims 1 and 16, Jiang teaches of compressing a plurality pixel values and a rounding vector into a first sum vector and a first carry vector (Note: Figure 1 show 8-bit pixel values being taken from the register and input into the multiplier for compressing, Figure 1 also shows a IFU input also being fed in which can provide the rounding vector (i.e. a divide-by number), Column 3, Lines 50-54 and Column 4, Lines 12-14); discarding the least significant bit the first carry vector; discarding two least significant bits of the sum vector (Note: discarding of the least significant bits are done by the use of the rounding value input into the multiplier); and adding the first sum vector and the first carry vector to generate a pixel average value (Note: this is done by the ALU which is described in detail in Figure 4, reference number 420 adds the two together, Column 5, Lines 16-25).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-4, 6-7, 9-12, 14, 17-19, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang (US 6,078,941).

As for claims 2, 9, and 17, most of the limitations are contained in the above rejection of claim 1. Jiang does not explicitly teach of adding the sum and carry vector using a SIMD adder, however, Jiang does disclose that the use of an SIMD could be used to operate on multiple data elements in parallel (as is being done within Jiang's invention). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an SIMD adder for simplicity within the circuitry so that multiple tasks being done could be performed with only one adder.

As for claims 3, 11 and 18, most of the limitations of the claim are contained in the above rejection of claim 1. Jiang does not explicitly teach of compressing four pixel values and a rounding vector, however, Jiang does disclose compressing up to 32 data elements (i.e. 288-bit at multiplier is equal to 32-8 bit elements each with an extra bit which can be input into the multiplier, Column 3, Lines 47-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to limit the number of inputs into the multiplier in order to reduce the computational burden on the circuitry.

As for claims 4, 12, and 19, Jiang teaches of the pixel values comprise 8-bit values (Column 3, Lines 49-54).

As for claims 6, 14, and 21, Jiang does not explicitly teach of the rounding vector is 10_2 , however, Jiang does teach of a divide by 2 or 4 operation would derive the same result (Column 6, Lines 47-53). It would have been well known to one of ordinary skill in the art at the time of the invention to use a rounding value of 2_{10} instead of a divide by 2 or 4 operation because dividing will result in a rounding affect.

As for claims 7 and 22, Jiang teaches of compressing four pixel values and a rounding vector is preformed in three stages (Note: the three stages consist of pixel values input into the multiplier in Fig.1, which is then sent to adder unit 420 in Figure 4, which then sends it to MCS (i.e. modular computational structures) 500 as described in Figure 5.).

As for claim 10, Jiang teaches of plurality of compressors comprises four compressors (Note: if 8-bit data elements are used in Jiang then 4 multiplies (i.e. compressors) are used, Column 4, Lines 45-52).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Haney whose telephone number is 703-305-4915. The examiner can normally be reached on M-Th (5:30-3:00), Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Haney
Examiner
Art Unit 2613

mjh


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